

WHAT IS CLAIMED IS:

1. A signal processing circuit substrate used for a liquid crystal display unit, a device being to be mounted on a first surface of said signal processing circuit  
5 substrate, said device having a variable value and including an value adjustment portion through which said variable value is adjusted,

said signal processing circuit substrate including a mounting member to which said device is electrically and mechanically connected such that said value adjustment portion faces a through-hole formed throughout said signal processing  
10 circuit substrate,

said mounting member being fixed at opposite edges thereof onto said first surface of said signal processing circuit substrate.

2. The signal processing circuit substrate as set forth in claim 1, wherein said  
15 mounting member is comprised of a flexible printed circuit.

3. The signal processing circuit substrate as set forth in claim 1, wherein said mounting member is composed of flexible material, and said device is supported by said mounting member in a floating condition above said signal processing circuit  
20 substrate.

4. The signal processing circuit substrate as set forth in claim 1, wherein said mounting member is fixed at one corner thereof onto said first surface of said signal processing circuit substrate and fixed together with terminals of said device at three  
25 corners thereof onto said first surface of said signal processing circuit substrate.

5. The signal processing circuit substrate as set forth in claim 1, wherein said device is mounted on said mounting member such that said value adjustment portion does not project beyond a second surface of said signal processing circuit

substrate.

6. The signal processing circuit substrate as set forth in claim 1, wherein said through-hole has such an area that an adjuster used for adjusting said value  
5 adjustment portion can move sufficiently to be engaged with said value adjustment portion through said through-hole.

7. The signal processing circuit substrate as set forth in claim 6, wherein said area is equal to a sum of a first area actually occupied by said device and a second  
10 area in which said device is allowed to move.

8. The signal processing circuit substrate as set forth in claim 1, further comprising a plate for reinforcing said mounting member which plate absorbs a compressive force exerted on said mounting member when said value adjustment  
15 portion is adjusted.

9. The signal processing circuit substrate as set forth in claim 8, wherein said plate is fixed onto said mounting member at the opposite side of said device.

20 10. The signal processing circuit substrate as set forth in claim 1, further comprising a plurality of reinforcing pads which fix said mounting member onto said first surface of said signal processing circuit substrate.

25 11. The signal processing circuit substrate as set forth in claim 10, wherein said signal processing circuit substrate includes at least two reinforcing pads which are located on a diagonal line passing through a center of said mounting member.

12. The signal processing circuit substrate as set forth in claim 1, wherein said mounting member is formed with means for preventing said mounting member

from being wrongly fixed onto said signal processing circuit substrate.

13. The signal processing circuit substrate as set forth in claim 12, wherein said means is comprised of three holes which are located in no rotational symmetry about  
5 a center of said mounting member.

14. The signal processing circuit substrate as set forth in claim 12, wherein said means is comprised of three projections which are located in no rotational symmetry about a center of said mounting member.  
10

15. The signal processing circuit substrate as set forth in claim 12, wherein said means is comprised of three marks which are located in no rotational symmetry about a center of said mounting member.

16. The signal processing circuit substrate as set forth in claim 1, wherein said mounting member is fixed onto said first surface of said signal processing circuit substrate by any one or more of soldering, application of an adhesive, screwing and welding.  
15

17. The signal processing circuit substrate as set forth in claim 1, wherein said device is a resistor.  
20

18. The signal processing circuit substrate as set forth in claim 1, wherein said device is a capacitor.  
25

19. The signal processing circuit substrate as set forth in claim 1, wherein said device is a laser trimming resistor.

20. A signal processing circuit substrate used for a liquid crystal display unit, a

device being to be mounted on a first surface of said signal processing circuit substrate, said device having a variable value and including an value adjustment portion through which said variable value is adjusted,

said signal processing circuit substrate being formed with a through-hole,

5        said signal processing circuit substrate including a flexible arch-shaped member having a height relative to said first surface of said signal processing circuit substrate,

      said device being electrically and mechanically fixed onto a lower surface of said member in a floating condition above said signal processing circuit substrate such that said value adjustment portion is in alignment with said through-hole so as  
10      to allow said value adjustment portion to be adjusted through said through-hole,

      said member being fixed at opposite edges onto said first surface of said signal processing circuit substrate.

21. The signal processing circuit substrate as set forth in claim 20, wherein said  
15      member is comprised of a flexible printed circuit.

22. The signal processing circuit substrate as set forth in claim 20, wherein said member is fixed at one corner thereof onto said first surface of said signal processing circuit substrate and fixed together with terminals of said device at three corners  
20      thereof onto said first surface of said signal processing circuit substrate.

23. The signal processing circuit substrate as set forth in claim 20, wherein said device is mounted on said member such that said value adjustment portion does not project beyond a second surface of said signal processing circuit substrate.

25

24. The signal processing circuit substrate as set forth in claim 20, wherein said through-hole has such an area that an adjuster used for adjusting said value adjustment portion can move sufficiently to be engaged with said value adjustment portion through said through-hole.

25. The signal processing circuit substrate as set forth in claim 24, wherein said area is equal to a sum of a first area actually occupied by said device and a second area in which said device is allowed to move.

5

26. The signal processing circuit substrate as set forth in claim 20, further comprising a plate for reinforcing said member which plate absorbs a compressive force exerted on said member when said value adjustment portion is adjusted.

10 27. The signal processing circuit substrate as set forth in claim 26, wherein said plate is fixed onto said member at the opposite side of said device.

28. The signal processing circuit substrate as set forth in claim 20, further comprising a plurality of reinforcing pads which fix said member onto said first surface of said signal processing circuit substrate.

15

29. The signal processing circuit substrate as set forth in claim 28, wherein said signal processing circuit substrate includes at least two reinforcing pads which are located on a diagonal line passing through a center of said member.

20

30. The signal processing circuit substrate as set forth in claim 28, wherein said reinforcing pads are located adjacent to a bending of said member.

31. The signal processing circuit substrate as set forth in claim 28, wherein said signal processing circuit substrate includes four reinforcing pads located in a rotational symmetry about a center of said member and adjacent to a bending of said member.

25

32. The signal processing circuit substrate as set forth in claim 20, wherein said

member is formed with means for preventing said member from being wrongly fixed onto said signal processing circuit substrate.

33. The signal processing circuit substrate as set forth in claim 32, wherein said  
5 means is comprised of three holes which are located in no rotational symmetry about a center of said member.

34. The signal processing circuit substrate as set forth in claim 32, wherein said  
10 means is comprised of three projections which are located in no rotational symmetry about a center of said member.

35. The signal processing circuit substrate as set forth in claim 32, wherein said  
15 means is comprised of three marks which are located in no rotational symmetry about a center of said member.

36. The signal processing circuit substrate as set forth in claim 20, wherein said  
member is fixed onto said first surface of said signal processing circuit substrate by  
any one or more of soldering, application of an adhesive, screwing and welding.

20 37. The signal processing circuit substrate as set forth in claim 20, wherein said device is a resistor.

38. The signal processing circuit substrate as set forth in claim 20, wherein said  
25 device is a capacitor.

39. The signal processing circuit substrate as set forth in claim 20, wherein said device is a laser trimming resistor.

40. A method of fabricating a signal processing circuit substrate used for a

liquid crystal display unit, a device being to be mounted on a first surface of said signal processing circuit substrate, said device having a variable value and including an value adjustment portion through which said variable value is adjusted,

said method comprising the steps of:

5 (a) mounting said device onto an upper surface of a flexible member such that said value adjustment portion upwardly faces;

(b) bending said flexible member at first lines thereof towards said lower surface;

(c) bending said flexible member at second lines towards said upper surface,  
10 said second lines being located between said device and said first lines; and

(d) fixing said flexible member at its opposite ends onto said first surface of said signal processing circuit substrate such that said value adjustment portion is exposed through a through-hole formed through said signal processing circuit substrate.

15 41. The method as set forth in claim 40, further comprising the step of (e) fixing a reinforcing plate onto a lower surface of said flexible member, said step (e) being to be carried out before said step (d).

20 42. The method as set forth in claim 40, wherein said flexible member is fixed at one corner thereof onto said first surface of said signal processing circuit substrate and fixed together with terminals of said device at three corners thereof onto said first surface of said signal processing circuit substrate in said step (d).

25 43. The method as set forth in claim 40, wherein said flexible member is fixed onto said first surface of said signal processing circuit substrate such that said value adjustment portion does not project beyond a second surface of said signal processing circuit substrate.

44. The method as set forth in claim 40, further comprising the step of (f) fixing

said flexible member onto said first surface of said signal processing circuit substrate with a plurality of reinforcing pads.

45. The method as set forth in claim 44, wherein at least two reinforcing pads  
5 are located on a diagonal line passing through a center of said member, in said step (f).

46. The method as set forth in claim 44, wherein four reinforcing pads are  
located in a rotational symmetry about a center of said member and adjacent to a  
10 bending of said flexible member, in said step (f).

47. A method of fabricating a signal processing circuit substrate used for a  
liquid crystal display unit, a device being to be mounted on a first surface of said  
signal processing circuit substrate, said device having a variable value and including  
15 an value adjustment portion through which said variable value is adjusted,

said method comprising the steps of:

(a) patterning a flexible printed circuit sheet into patterns which will make  
flexible printed circuits;

(b) covering said flexible printed circuit sheet with an electrical insulator;

20 (c) mounting said device on a second surface of said flexible printed circuit  
sheet;

(d) cutting said flexible printed circuit sheet into flexible printed circuits;

(e) downwardly bending said flexible printed circuit sheet at first lines across  
said device;

25 (f) upwardly bending said flexible printed circuit sheet at second lines across  
said device, said second lines being located between said device and said first lines;  
and

(g) fixing said flexible printed circuit sheet onto said first surface of said signal  
processing circuit substrate such that said value adjustment portion of said device is



in alignment with a through-hole formed throughout said signal processing circuit substrate.

48. The method as set forth in claim 47, further comprising the step of (h) adhering a reinforcing plate on a first surface of said flexible printed circuit sheet across a width of said flexible printed circuit sheet, said step (h) being to be carried out prior to said step (d).

49. The method as set forth in claim 47, further comprising the step of (i) forming marks located in no rotational symmetry about a center of said printed circuit sheet.

50. The method as set forth in claim 49, wherein said marks are comprised of holes, and said step (i) is carried out concurrently with said step (d).

51. The method as set forth in claim 47, wherein said flexible printed circuit is fixed onto said first surface of said signal processing circuit substrate such that said value adjustment portion does not project beyond a second surface of said signal processing circuit substrate.

52. The method as set forth in claim 47, further comprising the step of fixing said flexible printed circuit onto said first surface of said signal processing circuit substrate with a plurality of reinforcing pads.

53. The method as set forth in claim 52, wherein at least two reinforcing pads are located on a diagonal line passing through a center of said flexible printed circuit.

54. The method as set forth in claim 47, wherein four reinforcing pads are located in a rotational symmetry about a center of said flexible printed circuit and

adjacent to said second lines of said flexible printed circuit.